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SARWAR, BABAR				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary

Application No.

10/580,729

Applicant(s)

SHANG ET AL.

Examiner

BABAR SARWAR

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. **Claims 1-3, 5, 7-11, 13-14, 16, and 18** have been amended.
2. **Claims 19-20** are newly added.
3. **Claims 1-20** are currently pending.
4. Applicant's arguments filed on **01/29/2009** have been fully considered but they are not persuasive.

The applicant argued features wherein deciding whether an UE and another UE in P2P communication can handover into said suitable cell to continue P2P communication; judging of claim 1, which determines if handover operations may be performed for at least two UE devices **at nearly or exactly** the same time, read upon Gil in view of Haart as follows;

Gil discloses a mobile station monitoring the pilot signal strength of the base stations of the Active Set, The Candidate Set, and the Neighbor Set. Thus Gil shows the limitation of "detecting downlink signals of an active cell in which an UE is camping and its adjacent cells". Gil further discloses that when a pilot signal of a base station in the Neighbor Set exceeds a predetermined threshold level, the base station is added to the Candidate Set and removed from the Neighbor Set at the mobile unit. The mobile unit communicates a message to the first base station identifying the new base station. A system controller **decides, therefore judges**, whether to establish communication between the new base station and the mobile unit. Thus Gil shows the limitation of "judging whether there exists a suitable cell whose link performance is a predefined

value higher than that of said active cell according to the detecting result" (**Col. 2: 11-22**).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "...**at nearly or exactly** the same time...") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's argument that Gil does not disclose P2P communication. The examiner would like to point out that Gil is not relied upon for P2P communication.

In response to applicant's argument that the sections of Haart cited in the Office Action do not establish that Haart uses P2P communications. The examiner would like to point out that P2P communication does not exclude as claimed, a direct communication link. Both terminals are in contact with each other and one peer is exchanging information with another peer. Thus the prior art on the record teaches wherein "deciding whether said UE and another UE in P2P communication can handover into said suitable cell to continue P2P communication."

Concerning the applicant's argument regarding references, both of the references are from the same field, i.e., communication system and concerned analogues topics. Therefore, the examiner contends that the references would be combinable to one of

ordinary skills in the art. The motivation was shown in the secondary reference, i.e., Haart.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10, and 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilhousen et al. (US 6546058 B1) in view of Haartsen et al. (US 6574266 B1), hereinafter referenced as Gil and Haart.

Consider **claim 1**, Gil discloses a method to be performed by a UE (**Fig. 1**). Gil discloses that detecting downlink signals of an active cell in which said UE is camping and its adjacent cells (**Col. 2 lines 11-15, Figs. 1 and 3, where Gil discloses a mobile station monitoring active set, candidate set and neighbor set, therefore detecting downlink signals of an active cell**). Gil further discloses that judging whether there exists a suitable cell whose link performance is a predefined value higher than that of the active cell, according to the detecting result (**Col. 2: 15-19, where Gil discloses a predetermined threshold level of pilot signal strength and a system controller deciding, therefore judging, whether to establish communication between the new base station and the mobile unit**), and sending a detection report message to a network system to start a judging procedure of the network system if there exists the suitable cell (**Col. 2 : 11- 57, Col. 13 : 6-67, Col. 14 : 1-67, and Figs. 1-3, where Gil**

discloses the system controller sending messages to the new base station and the mobile station).

Gil fails to disclose that the judging procedure decides whether said UE and another UE in P2P communication can handover into the suitable cell to continue P2P communication. Haart discloses that the judging procedure decides whether said UE and the another UE in P2P communication can handover into said suitable cell to continue P2P ((**Abstract, Col. 3 lines 44-46, Col. 8 lines 18-23, Col. 12: 28-49, Figs. 5, 7A-D, where Haart discloses handover in the direct mode communication**)).

Therefore it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Gil by specifically providing the judging procedure decides whether said UE and another UE in P2P communication can handover into the suitable cell to continue P2P communication, as taught by Haart, for the purpose of enhancing the performance of the network by having an uninterrupted communication between remote terminals, as discussed by Haart (**Col. 5: 24-36**).

Consider **claim 2**, the combination teaches everything claimed as implemented above (see claim 1). In addition, Gil specifically discloses that said judging includes: whether there exist candidate cells whose link performance can meet the requirement for communication quality in said adjacent cells, according to the result of detecting downlink signals and judging whether there exists the suitable cell in the candidate cells if there exist the candidate cells (**Col. 2 lines 11-57, Col. 13 lines 6-67, Col. 14 lines 1-67, and Col. 15 lines 22, figs. 1-3**).

Consider **claim 3**, the combination teaches everything claimed as implemented

above (see claim 2). In addition, Gil specifically discloses that sending a report message about candidate cells to the network system to report the decided candidate cells to the network system (**Col. 2 lines 11-57, Col. 13 lines 6-67, Col. 14 lines 1-67, and Col. 15 lines 22, figs. 1-3**).

Consider **claim 4**, the combination teaches everything claimed as implemented above (see claim 1). In addition, Haart specifically discloses that receiving a cell handover command from network system and establishing a P2P connection with the another UE in the suitable cell (**Abstract, Col. 12:28-49, Fig. 7D**).

Therefore it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Gil by specifically providing receiving a cell handover command from network system and establishing a P2P connection with the another UE in the suitable cell, as taught by Haart, for the purpose of enhancing the performance of the communication by reducing the set up time as discussed by Haart (**Col. 5: 24-36**).

Consider **claim 5**, the combination teaches everything claimed as implemented above (see claim 4). In addition, Haart specifically discloses that releasing the P2P connection in the active cell and sending a message for completing cell handover to the network system (**Abstract, Col. 12: 28-49, Fig. 7D, where Haart discloses base stations taking over control when the remote terminals 240, 250 listen to the broadcast of channel of the new base station and establish connection with the new base station i.e. connection is released**).

Therefore it would have been obvious to one of ordinary skills in the art at the

time the invention was made to modify Gil by specifically providing that releasing the P2P connection in the active cell and sending a message for completing cell handover to the network system, as taught by Haart, for the purpose of enhancing the performance of the communication by releasing the resources of the network to be reused by other remote terminals as discussed by Haart (**Col. 5: 24-36**).

Consider **claim 6**, the combination teaches everything claimed as implemented above (see claim 1). In addition, Gil specifically discloses that receiving a detection control message from the network system and sending a detection report message about the link performance of the active cell to the network system, according to the detection control message (**Col. 2: 11-57, Col. 13: 6-67, Col. 14: 1-67, Figs. 1-3**).

Consider **claim 7**, Gil discloses a method to be performed by a network system, for first and second user equipment (UE) (**Fig. 1 where Gil discloses plurality of mobile units**) in communication mode to perform cell handover (**Abstract, Figs. 1, 3**). Gil further discloses that receiving a detection report message from one of said first and second user equipment UEs, indicating that said one UE detects there exists a suitable cell in the adjacent cells of an active cell (**Col. 2: 11-15, Figs. 1 and 3, where Gil discloses active set, candidate set and neighbor set**). Gil discloses that where a link performance of said suitable cell is a predefined value higher than that of said active cell (**Col. 2: 11-57, Col. 13: 6-67, Col. 14: 1-67, Figs. 1-3**).

Gil fails to disclose that the starting a judging procedure to decide whether said first and second UEs can handover into said suitable cell to continue P2P communication. Haart discloses that starting a judging procedure to decide whether first

and second UEs can handover into said suitable cell to continue P2P communication **(Abstract, Col. 3: 44-46, Col. 8: 18-23, Col. 12: 28- 49, Figs. 5, 7A-D, where Haart discloses handover in the direct mode communication).**

Therefore it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Gil by specifically providing starting a judging procedure to decide whether said first and second UEs can handover into said suitable cell to continue P2P communication, as taught by Haart, for the purpose of enhancing the performance of the network by having an uninterrupted communication between remote terminals as discussed by Haart **(Col. 5: 24-36).**

Consider **claim 8**, the combination teaches everything claimed as implemented above (see claim 7). In addition, the claim 8 is interpreted and thus rejected for the same reasons applied in the rejection of claim 2.

Consider **claim 9**, the combination teaches everything claimed as implemented above (see claim 8). In addition, Haart specifically discloses that establishing a signaling link between said first and second UEs, if the requirement for communication quality is met and sending a cell handover command to said first and second UEs, so that said two UEs can establish P2P connection in said suitable cell **(Col. 12: 28-49, Figs. 5, 7A-D).**

Therefore it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Gil by specifically providing establishing a signaling link between said first and second UEs, if the requirement for communication quality is met and sending a cell handover command to said first and second user

equipment UEs, so that said two UEs can establish P2P connection in said suitable cell, as taught by Haart, for the purpose of enhancing the performance of the communication by achieving the required communication quality as discussed by Haart (**Col. 5: 24-36**).

Consider **claim 10**, the combination teaches everything claimed as implemented above (see claim 8). Gil teaches that checking the link performance of said another UE in said active cell if the requirement for communication quality cannot be met and judging whether the link performance of said first and second user equipment UEs in said active cell can meet the requirement for communication quality (**Col. 2: 11-57, Col. 13: 6-67, Col. 14: 1-67, Figs. 1-3**).

Gil does not specifically disclose that sending a command for maintaining P2P communication to said first and second UEs so that said first and second UEs can continue P2P communication in said active cell if the link performance of said first and second UEs in said active cell both can meet the requirement for communication quality. Haart discloses that sending a command for maintaining P2P communication to said first and second UEs so that said first and second UEs can continue P2P communication in said active cell if the link performance of said first and second UEs in said active cell both can meet the requirement for communication quality (**Col. 10: 54-67, Col 11: 1-67, and Col. 12: 1-49, Figs. 5, 7A-D, where Haart teaches remote terminals handing over to adjacent cells based on communication quality requirement i.e. they will not handover to the adjacent cell if communication quality requirement is not met or is poor**).

Therefore it would have been obvious to one of ordinary skills in the art at the

time the invention was made to modify Gil by specifically providing that sending a command for maintaining P2P communication to said first and second UEs so that said first and second UEs can continue P2P communication in said active cell if the link performance of said first and second UEs in said active cell both can meet the requirement for communication quality, as taught by Haart, for the purpose of enhancing the performance of the communication by achieving the required communication quality as discussed by Haart (**Col. 5: 24-36**).

6. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Gil in view of Haart, and further in view of Ranta et al. (US 2003/0144003), hereinafter referenced as Ranta.

Consider **claim 11**, the combination teaches everything claimed as implemented above (see claim 10). The combination fails to teach that sending a command for switching to conventional communication mode to said first and second UEs so that said first and second UEs can switch to conventional mode from P2P mode if the link performance of at least one of said first and second UEs in said active cell cannot meet the requirement for communication quality. Ranta discloses that sending a command for switching to conventional communication mode to said first and second UEs so that said first and second UEs can switch to conventional mode from P2P mode if the link performance of at least one of said first and second UEs in said active cell cannot meet the requirement for communication quality (**Abstract, Para 13, 23, 39, and 42, exhibited in figs. 1 B, 4B and 5**).

Therefore it would have been obvious to one of ordinary skills in the art at the

time the invention was made to modify Gil and Haart by specifically providing sending a command for switching to conventional communication mode to said first and second UEs so that said first and second UEs can switch to conventional mode from P2P mode if the link performance of at least one of said first and second UEs in said active cell cannot meet the requirement for communication quality, as taught by Ranta, for the purpose of enhancing the performance of the network by establishing and handling connections between mobile stations more efficiently by combining the properties of a cellular network and direct mode connections, as discussed by Ranta (**Para 0008**).

Consider **claim 12**, Gil and Haart teach everything claimed as implemented above (see claim 10). In addition, Gil specifically discloses that sending a detection control message to said another UE, to request said another UE to send a detection report about the link performance of said active cell and receiving said detection report from said another UE and checking the link performance of said another UE in said active cell according to said detection report (**Col. 2: 11-57, Col. 13: 6-67, Col. 14: 1-67, Figs. 1-3, where Gil teaches plurality of mobile units monitoring pilot signals strength of base stations**).

Consider **claim 13**, Gil and Haart disclose everything claimed as implemented above (see claim 7). In addition, Gil specifically discloses that receiving a report message about the candidate cells to any UE of said first and second UEs, the report message indicating that said one UE detects the link performance of an adjacent cell of said active cell can meet the requirement for communication quality and marking each candidate cell of said one UE according to the report message (**Col. 2: 11-57, Col. 13:**

6-67, Col. 14:1- 67, Figs. 1-3, where Gil discloses plurality of mobile units monitoring pilot signals strength of base stations).

Consider **claim 14**, Gil discloses an UE (user equipment) comprising a detecting unit for detecting downlink signals of said UE in an active cell and adjacent cells (**Col. 2: 13-15, where Gil discloses mobile unit monitoring the pilot signal strength i.e. mobile unit does comprise a detecting unit**), a judging unit for judging whether there exists a suitable cell whose link performance is a predefined value higher than that of said active cell, according to the detection result; (**Col. 2 lines 15-19, where Gil discloses mobile unit monitoring pilot signal of adjacent cells and if pilot signal strength in the adjacent cell exceeds the predetermined threshold, adding the adjacent cell to candidate set i.e. mobile does comprise a judging unit**), and a sending unit, for sending a detection report message to a network system to start a judging procedure of said network system when there exists said suitable cell (**Col. 2 lines 11-57, Col. 13 lines 6-67, Col. 14 lines 1-67, and Col. 15 lines 22, figs. 1-3, where Gil discloses mobile unit communicating a message to the first base station identifying the new base station i.e. mobile does comprise a sending unit**).

Gil fails to specifically disclose that the judging procedure decides whether the UE and another UE in P2P communication can handover into said suitable cell to continue P2P communication. Haart discloses that the judging procedure decides whether the UE and another UE in P2P communication can handover into said suitable cell to continue P2P communication (**Abstract, Col. 12: 28-49, Figs. 7D**).

Therefore it would have been obvious to one of ordinary skills in the art at the

time the invention was made to modify Gil by specifically providing that the judging procedure decides whether said UE and another UE in P2P communication can handover into said suitable cell to continue P2P communication, as taught by Haart, for the purpose of enhancing the performance of the network by having an uninterrupted communication between remote terminals as discussed by Haart (**Col. 5: 24-36**).

Consider **claim 15**, Gil and Haart disclose everything claimed as implemented above (see claim 14). In addition, Haart specifically discloses that a receiving unit, for receiving a cell handover command from said network system, an establishing unit, for establishing a P2P connection with said another UE in said suitable cell (**Abstract, Col. 12: 28-49, Figs. 7D, where Haart discloses that base stations send messages to the remote terminals instructing them to listen to broadcast channels of the new base stations and establishing the connection with the new base station i.e. remote terminals have receiving and establishing units**).

Therefore it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Gil by specifically providing a receiving unit, for receiving a cell handover command from said network system and an establishing unit, for establishing a P2P connection with said another UE in said suitable cell, as taught by Haart, for the purpose of enhancing the performance of the communication as discussed by Haart (**Col. 5: 24-36**).

Consider **claim 16**, Gil discloses a network system (**Abstract, Figs. 1-3**) comprising a receiving unit for receiving a detection report message from any user equipment UE of two UEs, the detection report message indicating that said UE detects

there exists a suitable cell in the adjacent cells of an active cell, and the link performance of said suitable cell is a predefined value higher than that of said active cell **(Col. 2: 11-57, Col. 13: 6-67, Col. 14: 1-67, Figs. 1-3).**

Gil fails to specifically disclose that a judging unit for starting a judging procedure to decide whether said two UEs can handover into said suitable cell to continue P2P communication, wherein said judging unit is for judging whether the link performance of another UE of said two UEs in said suitable cell can meet the requirement for communication quality. Haart discloses that a judging unit for starting a judging procedure to decide whether said two UEs can handover into said suitable cell to continue P2P communication, and the judging unit is for judging whether the link performance of another UE of said two UEs in said suitable cell can meet the requirement for communication quality **(Abstract, Col. 3: 44-46, Col. 8: 18-23, Col. 12: 28-49, Figs. 7D, where Gil teaches remote terminals handing over to adjacent cell based on the requirement of the communication quality i.e. remote terminals comprise a judging unit).**

Therefore it would have been obvious to one of ordinary skills in the art at the time the invention was made to modify Gil by specifically providing that a judging unit for starting a judging procedure to decide whether said two UEs can handover into said suitable cell to continue P2P communication, wherein said judging unit is for judging whether the link performance of another UE of said two UEs in said suitable cell can meet the requirement for communication quality, as taught by Haart, for the purpose of

enhancing the performance of the network by having an uninterrupted communication between remote terminals as discussed by Haart (**Col. 5: 24-36**).

Consider **claim 17**, Gil and Haart disclose everything claimed as implemented above (see claim 16). In addition, the claim 17 is interpreted and thus rejected for the same reasons applied in the rejection of claim 9.

Consider **claim 18**, Gil and Haart disclose everything claimed as implemented above (see claim 17). In addition, the claim 18 is interpreted and thus rejected for the same reasons applied in the rejection of claim 10.

Consider **claims 19**, Gil and Haart disclose everything claimed as implemented above (see claim 17). In addition, the claim 19 is interpreted and thus rejected for the same reasons applied in the rejection of claim 5.

Consider **claims 20**, Gil and Haart disclose everything claimed as implemented above (see claim 19). In addition, the claim 20 is interpreted and thus rejected for the same reasons applied in the rejection of claim 5.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BABAR SARWAR whose telephone number is (571)270-5584. The examiner can normally be reached on MONDAY TO FRIDAY 09:00 A.M -05:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NICK CORSARO can be reached on (571)272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BS/

/BABAR SARWAR/
Examiner, Art Unit 2617

/NICK CORSARO/

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